

Date: May 2, 2014

To: Thomas J. Bonfield, City Manager
Through: W. Bowman Ferguson, Deputy City Manager
From: Donald F. Greeley, Director, Water Management
Subject: FY 2014 - Water Reclamation Facilities Improvements
Engineering Services Contract

Executive Summary

On October 11, 2013 the Department advertised for professional engineering consulting services related to the Fiscal Year 2014 Water Reclamation Facilities (WRF) Improvements. The project consists of constructing phased upgrades as recommended in the 2012 Master Plans for the North Durham Water Reclamation Facility (NDWRF) and the South Durham Water Reclamation Facility (SDWRF). The proposed improvements include wet weather treatment capacity improvements, replacement of aging and obsolete equipment and side stream treatment improvements to achieve compliance with either the Falls Lake Rules (NDWRF) or Jordan Lake Rules (SDWRF).

The City received proposals from three firms to provide Preliminary Engineering, Detailed Design and Construction Related Services related to the FY 2014 WRF Improvements. Hazen and Sawyer P.C. was selected based on their experience, past performance and strength of their proposal. This contract is for the first phase, Preliminary Engineering. The Department anticipates two amendments to the contract to award each of the next two phases of work, Detailed Design and Construction Related Services respectively. This contract was negotiated for a total amount not to exceed \$1,148,290.00 for the first phase of work. These funds are available in the current Capital Improvement Program (CIP) fund.

Recommendation

The Department of Water Management recommends that the City Council:

1. Authorize the City Manager to execute a contract with Hazen and Sawyer, P.C. for engineering services for the FY 14 Water Reclamation Facilities Improvements in the total amount not to exceed \$1,148,290.00; and
2. Authorize establishment of a contingency fund for the contract of \$114,000.00; and
3. Authorize the City Manager to negotiate and execute change orders for the contract provided that the cost of all change orders together with the original contract cost does not exceed the total project cost of \$1,262,290.00.

Background

The City, through a previous contract with Hazen and Sawyer, developed facility Master Plans for the rehabilitation and improvement of the City's WRF's for a 20 year planning horizon. The City initiated the current FY 2014 WRF improvements project in accordance with the Capital Improvement Plan developed and approved during the master planning process. The proposed improvements include

wet weather treatment capacity improvements, replacement of aging and obsolete equipment and side stream treatment improvements to achieve compliance with either the Falls Lake Rules (NDWRF) or Jordan Lake Rules (SDWRF).

The City advertised for professional Engineering services on October 11, 2013 and received three proposals from the following firms:

1. Brown and Caldwell
2. CDM Smith Inc.
3. Hazen and Sawyer, P.C.

The proposals were evaluated and CDM Smith Inc. and Hazen and Sawyer, P.C. were interviewed for further clarification of their proposal. The City selection team chose to move forward with Hazen and Sawyer based on their experience, past performance and the strength of their proposal. The City and Engineer agreed that the preferred contracting strategy would include a phased approach in which preliminary engineering would precede and help define the detailed design scope and an amendment to this contract for the detailed design effort necessary. Once the final design is issued for bid and the City and Engineer know the inspection and construction administration effort required for the project, a final construction related services amendment will be negotiated.

Issues/Analysis

The first phase of work will provide a detailed evaluation of the individual tasks identified in the Master Plan and anticipated for the next round of construction. The contract is structured in three phases to avoid unnecessary contract changes and to allow the City to evaluate each task individually before contracting for a large detailed engineering effort that may change during preliminary engineering.

The overall project is anticipated to have a construction value of \$42 Million. The project includes the following proposed upgrades:

NDWRF – Proposed upgrades to be evaluated	
1.	NDWRF-Conversion of Plant A Clarifiers to Equalization
2.	NDWRF-Equalization Tank Mixing
3.	NDWRF-Aeration Fine Bubble Diffuser Upgrade
4.	NDWRF-Odor Control Rehabilitation
5.	NDWRF-Plant A Primary Settling Tank Improvements
6.	NDWRF-Plant B Influent Screening Facilities
7.	NDWRF-Secondary Clarifiers and Polymer Feed Improvements
8.	NDWRF-Sidestream Nutrient Removal Facilities
9.	NDWRF-Solids Handling and Polymer Feed Improvements
10.	NDWRF-Tertiary Filter Facility Upgrade
11.	NDWRF-Stormwater Management and Site Considerations
12.	NDWRF-Floodplain Considerations
13.	NDWRF-Electrical and Control System Considerations
SDWRF – Proposed Improvements to be evaluated	
1.	SDWRF-Dewatering Capacity and Polymer Feed Improvements
2.	SDWRF-Equalization Facilities
3.	SDWRF-Aeration Fine Bubble Diffuser Upgrade
4.	SDWRF-Influent Screening and Grit Removal Facilities

5.	SDWRF-Odor Control Rehabilitation
6.	SDWRF-Secondary Clarifier Capacity Improvements
7.	SDWRF-Tertiary Filter Media Upgrades
8.	SDWRF-Aeration Influent Channel Mixing Improvements
9.	SDWRF-UV Disinfection PLC Replacement
10.	SDWRF-Stormwater Management and Site Considerations
11.	SDWRF-Electrical and Control System Considerations

The total cost for the Preliminary Engineering Report will be \$1,148,290.00.

Alternatives

An alternative would be not proceeding with the current round of upgrades. This would endanger the City's ability to respond to increasing sewer demands and failure to meet stricter nutrient discharge limits at the plants which could ultimately lead to permit violations and fines.

Financial Impacts

Funding for this amendment is available in the Wastewater Process Rehabilitation Project which is part of the City's Capital Improvement Program. The funds are currently available in the project accounts:

Capital Project	Account Code	Amount
Wastewater Process Rehabilitation	4100P007-731003-P251Z	\$ 223,549.28
Wastewater Process Rehabilitation	4100P767-731003-P251Z	\$ 924,740.72
Wastewater Process Rehabilitation	4100P767-731900-P251Z	\$ 114,000.00

SDBE SUMMARY

The Equal Opportunity/Equity Assurance Department reviewed the proposal submitted by Hazen and Sawyer, P. C. of Raleigh, North Carolina to determine compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting. The goals for this project are 1% MSDBE and 1% WSDBE. It was determined that Hazen and Sawyer, P. C. is in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

SDBE REQUIREMENTS

Hazen and Sawyer, P. C. will subcontract to the following certified firms:

Firm	ID	City/State	Amount	% of Contract
*A1 Consulting Group, Inc.	SDBE	Morrisville, NC	\$ 30,000.00	2.6%
CH Engineering, PLLC	WSDBE	Raleigh, NC	\$ 29,000.00	2.5%
Ellum Engineering, Inc.	WSDBE	Fairview, NC	\$ 6,000.00	0.5%

*A-1 Consulting Group, Inc. is an Asian American SDBE and was used for minority participation for this project in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

The MSDBE and WSDBE goal were exceeded.

WORKFORCE STATISTICS

Workforce statistics for Hazen and Sawyer, P. C. are as follows:

Total Workforce	741	
Total Females	197	(27%)
Total Males	544	(73%)
Black Males	34	(4%)
White Males	438	(59%)
Other Males	72	(10%)
Black Females	14	(2%)
White Females	146	(20%)
Other Females	37	(5%)